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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/059,909

DATE: 02/22/2002 P.5
TIME: 15:39:00

Input Set : A:\BB1333 US CIP Seq Listing.txt

Output Set: N:\CRF3\02222002\J059909.raw

2 <110> APPLICANT: Cahoon, Edgar B.
3 Kinney, Anthony
4 Klein, Thodore
5 Lee, Jian Ming
6 Pearlstein, Richard
7 Rafalski, J. Antoni
8 Shen, Jennie
9 Thorpe, Cathy
10 Tingey, Scott
11 Weng, Zude
13 <120> TITLE OF INVENTION: Plant Lipoxxygenases
15 <130> FILE REFERENCE: BB1333 US CIP
C--> 17 <140> CURRENT APPLICATION NUMBER: US/10/059,909
C--> 18 <141> CURRENT FILING DATE: 2002-01-29
20 <150> PRIOR APPLICATION NUMBER: 09/501,422
21 <151> PRIOR FILING DATE: 2000-02-09
23 <150> PRIOR APPLICATION NUMBER: 60/119,597
24 <151> PRIOR FILING DATE: 1999-02-10
26 <160> NUMBER OF SEQ ID NOS: 21
28 <170> SOFTWARE: Microsoft Office 97
30 <210> SEQ ID NO: 1
31 <211> LENGTH: 565
32 <212> TYPE: DNA
33 <213> ORGANISM: Momordica charantia
35 <220> FEATURE:
36 <221> NAME/KEY: unsure
37 <222> LOCATION: (453)
38 <223> OTHER INFORMATION: n = A, C, G, or T
40 <220> FEATURE:
41 <221> NAME/KEY: unsure
42 <222> LOCATION: (469)
43 <223> OTHER INFORMATION: n = A, C, G, or T
45 <220> FEATURE:
46 <221> NAME/KEY: unsure
47 <222> LOCATION: (499)
48 <223> OTHER INFORMATION: n = A, C, G, or T
50 <220> FEATURE:
51 <221> NAME/KEY: unsure
52 <222> LOCATION: (506)
53 <223> OTHER INFORMATION: n = A, C, G, or T
55 <220> FEATURE:
56 <221> NAME/KEY: unsure
57 <222> LOCATION: (527)

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58 <223> OTHER INFORMATION: n = A, C, G, or T
60 <220> FEATURE:
61 <221> NAME/KEY: unsure
62 <222> LOCATION: (529)
63 <223> OTHER INFORMATION: n = A, C, G, or T
65 <220> FEATURE:
66 <221> NAME/KEY: unsure
67 <222> LOCATION: (553)
68 <223> OTHER INFORMATION: n = A, C, G, or T
70 <220> FEATURE:
71 <221> NAME/KEY: unsure
72 <222> LOCATION: (556)
73 <223> OTHER INFORMATION: n = A, C, G, or T
75 <400> SEQUENCE: 1
76 gagaatgttt gggattggga agagtatcat agaggggcgcc gtgaacacta ccggcgacct 60
77 cgccggctcc gtcataatg ccggcggcaa tattgtaggg cgtgtcacca ataccggcgg 120
78 gaagaagatc aaagggacgg tggttcttat gagaagcaat gttttggact tcaccgaatt 180
79 tcattcctca cttcttgacg gcgtcactga gctcttgggc ggcggaattt cattgcaact 240
80 tatcagtgtc actcacgctt ccaacgactc gcgagggaaa gttggaaagg gggcgtttct 300
81 ggagaggtgg ctgacttcag ttccgccact gtcgctgga gagtctgtgt ttcaagttaa 360
82 ctttgattgg gaagagaact ttgggatttc caaggagctt tcttcataaa aaatgggcac 420
W--> 83 accagtgagt tcttcctcaa gtctgttaact ccnggaggat ttcttggcnt tggaaggtcc 480
W--> 84 attttgactg caactcaang gtttancctt ctcgaagata aagaaantng cattttcttt 540
W--> 85 gcaaaccata aanccntcca ttcaa 565
87 <210> SEQ ID NO: 2
88 <211> LENGTH: 170
89 <212> TYPE: PRT
90 <213> ORGANISM: Momordica charantia
92 <220> FEATURE:
93 <221> NAME/KEY: UNSURE
94 <222> LOCATION: (155)
95 <223> OTHER INFORMATION: Xaa = ANY AMINO ACID
97 <220> FEATURE:
98 <221> NAME/KEY: UNSURE
99 <222> LOCATION: (164)
100 <223> OTHER INFORMATION: Xaa = ANY AMINO ACID
102 <220> FEATURE:
103 <221> NAME/KEY: UNSURE
104 <222> LOCATION: (166)
105 <223> OTHER INFORMATION: Xaa = ANY AMINO ACID
107 <400> SEQUENCE: 2
108 Met Phe Gly Ile Gly Lys Ser Ile Ile Glu Gly Ala Val Asn Thr Thr
109 1 5 10 15
111 Gly Asp Leu Ala Gly Ser Val Ile Asn Ala Gly Gly Asn Ile Val Gly
112 20 25 30
114 Arg Val Thr Asn Ile Gly Gly Lys Lys Ile Lys Gly Thr Val Val Leu
115 35 40 45
117 Met Arg Ser Asn Val Leu Asp Phe Thr Glu Phe His Ser Ser Leu Leu
118 50 55 60

```

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Input Set : A:\BB1333 US CIP Seq Listing.txt

Output Set: N:\CRF3\02222002\J059909.raw

```

120 Asp Gly Val Thr Glu Leu Leu Gly Gly Gly Ile Ser Leu Gln Leu Ile
121 65 70 75 80
123 Ser Ala Thr His Ala Ser Asn Asp Ser Arg Gly Lys Val Gly Lys Gly
124 85 90 95
126 Ala Phe Leu Glu Arg Trp Leu Thr Ser Val Pro Pro Leu Phe Ala Gly
127 100 105 110
129 Glu Ser Val Phe Gln Val Asn Phe Leu Gly Arg Glu Leu Trp Asp Phe
130 115 120 125
132 Gln Gly Ala Phe Phe Ile Lys Asn Gly His Thr Ser Glu Phe Phe Leu
133 130 135 140
W--> 135 Lys Ser Val Thr Pro Gly Phe Pro Gly Xaa Lys Val His Phe Asp
136 145 150 155 160
W--> 138 Cys Asn Ser Xaa Val Xaa Pro Ser Arg Arg
139 165 170
141 <210> SEQ ID NO: 3
142 <211> LENGTH: 639
143 <212> TYPE: DNA
144 <213> ORGANISM: Impatiens balsamia
146 <220> FEATURE:
147 <221> NAME/KEY: unsure
148 <222> LOCATION: (488)..(489)
149 <223> OTHER INFORMATION: n = A, C, G, or T
151 <220> FEATURE:
152 <221> NAME/KEY: unsure
153 <222> LOCATION: (494)
154 <223> OTHER INFORMATION: n = A, C, G, or T
156 <220> FEATURE:
157 <221> NAME/KEY: unsure
158 <222> LOCATION: (526)
159 <223> OTHER INFORMATION: n = A, C, G, or T
161 <220> FEATURE:
162 <221> NAME/KEY: unsure
163 <222> LOCATION: (530)
164 <223> OTHER INFORMATION: n = A, C, G, or T
166 <220> FEATURE:
167 <221> NAME/KEY: unsure
168 <222> LOCATION: (537)
169 <223> OTHER INFORMATION: n = A, C, G, or T
171 <220> FEATURE:
172 <221> NAME/KEY: unsure
173 <222> LOCATION: (549)
174 <223> OTHER INFORMATION: n = A, C, G, or T
176 <220> FEATURE:
177 <221> NAME/KEY: unsure
178 <222> LOCATION: (572)
179 <223> OTHER INFORMATION: n = A, C, G, or T
181 <220> FEATURE:
182 <221> NAME/KEY: unsure
183 <222> LOCATION: (610)

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RAW SEQUENCE LISTING

DATE: 02/22/2002

PATENT APPLICATION: US/10/059,909

TIME: 15:39:00

Input Set : A:\BB1333 US CIP Seq Listing.txt

Output Set: N:\CRF3\02222002\J059909.raw

```

184 <223> OTHER INFORMATION: n = A, C, G, or T
186 <220> FEATURE:
187 <221> NAME/KEY: unsure
188 <222> LOCATION: (617)
189 <223> OTHER INFORMATION: n = A, C, G, or T
191 <220> FEATURE:
192 <221> NAME/KEY: unsure
193 <222> LOCATION: (631)
194 <223> OTHER INFORMATION: n = A, C, G, or T
196 <400> SEQUENCE: 3
197 gttgaagagg caatgaatca aaacaagatt ttcatattag atcaccatga tagtttgatg 60
198 ccatacttgg ggagaatcaa cacaaccacc acaaagactt atgottcaag gactcttctt 120
199 atccttagga aagatgggac tttgatgcca ttagccattg agctaagcct gccaaccca 180
200 agaggagatg aatatgggtgc catatgcaaa gtctacaccc cggctcaaca tgggtgtagaa 240
201 gcctcccttt ggcagcttgc ttaagcctat gtcgtgggta acgactcttg tatccacgaa 300
202 tccgtccagt cattgggttt gaacacgcaa gcagtgattg agcatttgta atcgcgacaa 360
203 acagacactt agcgtacttt atccgatcaa aagttgttca cctcatttt ccgagacacg 420
204 attaacatta tgcacgcaa ggaagtacta atcacgcggg ttgagttatt gagaaacttt 480
W--> 205 tcacatcnaa gtanacagga gattcctccg caattacaag aatggntttt acgacantcc 540
W--> 206 tcccctggnc tattaaaggg gattgcgtaa gntataagaa aaccgtctcg caccaaaaga 600
W--> 207 tacctagccn tacggcnaga tttgttcata nacttggtta 639
209 <210> SEQ ID NO: 4
210 <211> LENGTH: 102
211 <212> TYPE: PRT
212 <213> ORGANISM: Impatiens balsamia
214 <220> FEATURE:
215 <221> NAME/KEY: UNSURE
216 <222> LOCATION: (88)
217 <223> OTHER INFORMATION: Xaa = ANY AMINO ACID
219 <400> SEQUENCE: 4
220 Val Glu Glu Ala Met Asn Gln Asn Lys Ile Phe Ile Leu Asp His His
221 1 5 10 15
223 Asp Ser Leu Met Pro Tyr Leu Gly Arg Ile Asn Thr Thr Thr Thr Lys
224 20 25 30
226 Thr Tyr Ala Ser Arg Thr Leu Leu Ile Leu Arg Lys Asp Gly Thr Leu
227 35 40 45
229 Met Pro Leu Ala Ile Glu Leu Ser Leu Pro Asn Pro Arg Gly Asp Glu
230 50 55 60
232 Tyr Gly Ala Ile Cys Lys Val Tyr Thr Pro Ala Gln His Gly Val Glu
233 65 70 75 80
W--> 235 Ala Ser Leu Trp Gln Leu Ala Xaa Ala Tyr Val Val Val Asn Asp Ser
236 85 90 95
238 Cys Ile His Glu Ser Val
239 100
241 <210> SEQ ID NO: 5
242 <211> LENGTH: 654
243 <212> TYPE: DNA
244 <213> ORGANISM: Zea mays
246 <220> FEATURE:

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DATE: 02/22/2002

TIME: 15:39:00

Input Set : A:\BB1333 US CIP Seq Listing.txt

Output Set: N:\CRF3\0222002\J059909.raw

```

247 <221> NAME/KEY: unsure
248 <222> LOCATION: (4)
249 <223> OTHER INFORMATION: n = A, C, G, or T
251 <220> FEATURE:
252 <221> NAME/KEY: unsure
253 <222> LOCATION: (9)
254 <223> OTHER INFORMATION: n = A, C, G, or T
256 <220> FEATURE:
257 <221> NAME/KEY: unsure
258 <222> LOCATION: (35)
259 <223> OTHER INFORMATION: n = A, C, G, or T
261 <220> FEATURE:
262 <221> NAME/KEY: unsure
263 <222> LOCATION: (37)
264 <223> OTHER INFORMATION: n = A, C, G, or T
266 <220> FEATURE:
267 <221> NAME/KEY: unsure
268 <222> LOCATION: (89)
269 <223> OTHER INFORMATION: n = A, C, G, or T
271 <220> FEATURE:
272 <221> NAME/KEY: unsure
273 <222> LOCATION: (123)
274 <223> OTHER INFORMATION: n = A, C, G, or T
276 <220> FEATURE:
277 <221> NAME/KEY: unsure
278 <222> LOCATION: (135)
279 <223> OTHER INFORMATION: n = A, C, G, or T
281 <400> SEQUENCE: 5
W--> 282 aggn'gcacnc tcccggaccg gataccggcg gcacnancgg ctgccgagga tcagctgcag 60
W--> 283 cgccaccgag gaggtcagcg ggcgcccng tcgtcccgtc accgtggaga ggatgctcac 120
W--> 284 ggn'gacggcg tcggn'ggagg cgtcgccggc catcgggcag atgtacttcc agcgcgccgt 180
285 cgacgacatc ggcgacctcc tcggcaagac gctgctgctc gagctcgtca gctccgagct 240
286 cgacgcaaaag tcggg'cggtg agaaaacgcg ggtgacggcg tacgcgcaca agacgctgcg 300
287 ggagggccac tacgaggcgg agttcaagg g'ccggcgctc ttcgggcccgg tgggcgcggg 360
288 gctggtggag aacgagcacc acaaggagg cttcatcaag gagatcaagc tcgtcaccgg 420
289 cggcgacagc agcaccgccg tcaccttcga ctgcaactcc tgggtgcact ccaagttcga 480
290 caacc'cgag aagcgcatt tcttcaccct caagtcatac ctgccgtccg acacgccc'aa 540
291 ggggctggag gacctgagga agaaagacct gcaggcgctg cgcggcgacg ggcacggcga 600
292 gcgcaagg'g ttcgagcgcg tctacgacta cgacgtgtac aacgaactgg gcga 654
294 <210> SEQ ID NO: 6
295 <211> LENGTH: 147
296 <212> TYPE: PRT
297 <213> ORGANISM: Zea mays
299 <400> SEQUENCE: 6
300 Leu Leu Leu Glu Leu Val Ser Ser Glu Leu Asp Ala Lys Ser Gly Val
301 1 5 10 15
303 Glu Lys Thr Arg Val Thr Ala Tyr Ala His Lys Thr Leu Arg Glu Gly
304 20 25 30
306 His Tyr Glu Ala Glu Phe Lys Val Pro Ala Ser Phe Gly Pro Val Gly

```

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa

VERIFICATION SUMMARY

DATE: 02/22/2002

PATENT APPLICATION: US/10/059,909

TIME: 15:39:01

Input Set : A:\BB1333 US CIP Seq Listing.txt

Output Set: N:\CRF3\02222002\J059909.raw

L:17 M:270 C: Current Application Number differs, Replaced Application Number
L:18 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:83 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:84 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:85 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:135 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:138 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:205 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:206 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:207 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:235 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:282 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:283 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:284 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:374 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:379 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:380 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:410 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:487 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:488 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:494 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:497 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:498 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:536 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:560 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:584 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:1394 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:1397 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:1400 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:1465 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20
L:1468 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20